

WHAT WE CLAIM IS:

1. A semiconductor device comprising:
 - a semiconductor substrate; and
 - a semiconductor element which comprises:
 - a first electrode provided on a front plane of said semiconductor substrate, and
 - a second electrode provided on a rear plane of said semiconductor substrate;
 - a first metallic member connected to said first electrode; and
 - a second metallic member connected to said second electrode; wherein
 - said second electrode is connected to said second metallic member via a metallic layer containing precious metal, and
 - said metallic layer is a composite metal layer comprised of a first precious metal layer provided at the front plane of said second electrode and a second precious metal layer adhered thereto by compression bonding provided at the front plane of said second metallic member.

2. A semiconductor device comprising:
 - a semiconductor chip; and
 - a metallic member connected to a chip electrode,

wherein:

said chip electrode is composed of any of an Al film and an Al alloy film;

 a bonding front plane of said metallic member is composed of a plated precious metal film;

 said chip electrode is bonded metallically to said metallic member via Au bumps; and

 at least 80% of an area of a respective Au/Al bonding region is contacting a Au bump, said bonding region being made of an Au/Al alloy layer in the thickness direction.